

The Researchers Report 2012
Country Profile: Czech Republic



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1. Key data

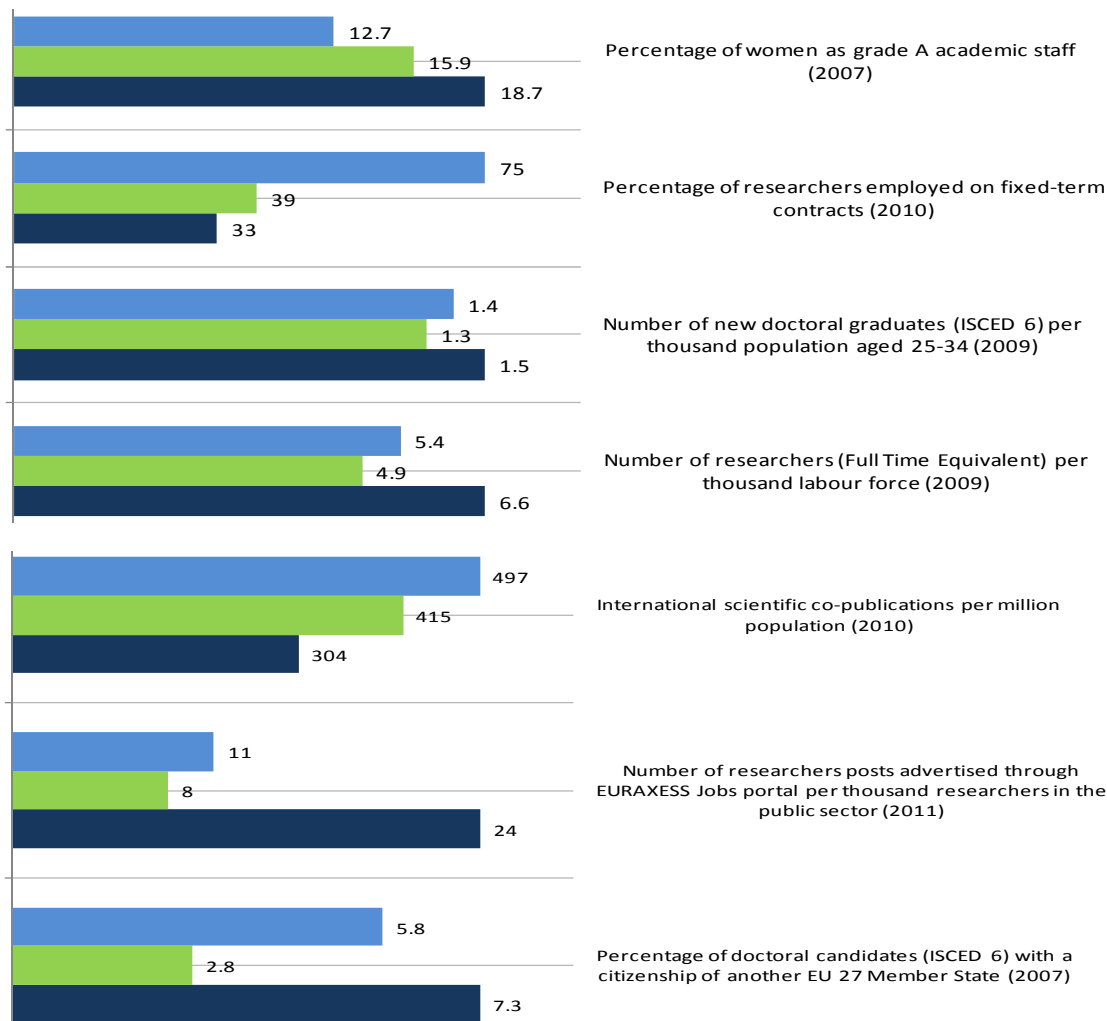
National R&D intensity target

“The Czech Research and Innovation system went under a radical transformation alongside the post-Communist economic and social changes that characterised the early 1990s. During this period, the system suffered from significant public R&D cuts as well as from short-sighted decreases in private R&D, which put at stake the long-term technological and innovative capacity of the country. In the last decade, however, this trend reverted and R&D intensity rose from 1.21% in the year 2000 to 1.55% in 2006, i.e. at an average growth rate of 4.2%. However, while the reform of the Czech R&I system seemed well on track until 2006, the situation deteriorated again during the period 2006–2008, with a fall of R&D intensity to 1.47% in 2008, rising again to 1.53% in 2009 due to a drop in GDP. Despite this increase, R&D intensity still falls short the EU average by around 33%. In order to ensure the scientific and technological convergence and not jeopardise the recently initiated economic and social convergence, R&D investments should accelerate. The Czech authorities have recognised this need and have established an ambitious R&D target for 2020 at 2.7 % - very close to the 3% EU target.”¹

Key indicators measuring the country’s research performance

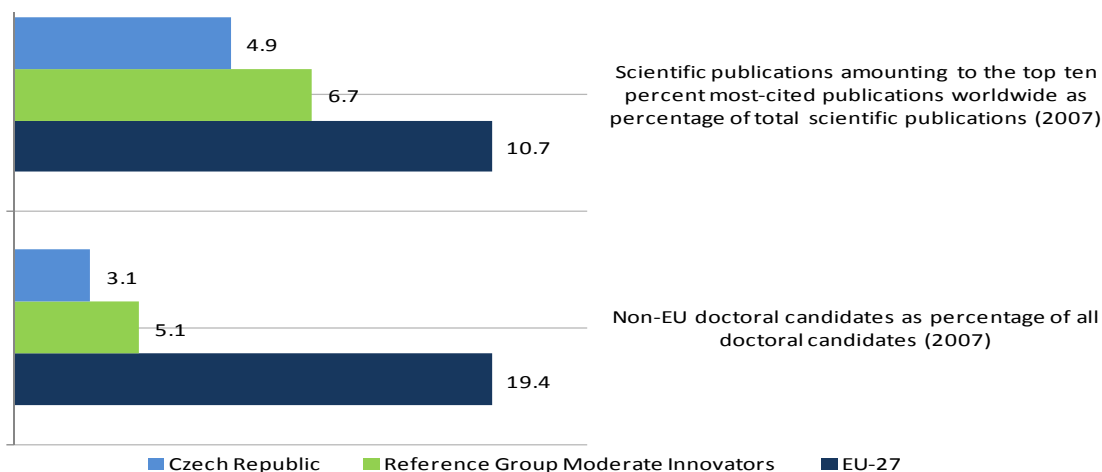
The figure below presents key indicators measuring Czech Republic’s research performance against a reference group and the EU-27 average².

Figure 1: Key indicators – Czech Republic



¹ European Commission (2011), “Innovation Union Competitiveness Report 2011”.

² The values refer to 2011 or the latest year available.



Source: Deloitte

Data: Eurostat, SHE Figures, EURAXESS Jobs Portal, Science Metrix/Scopus (Elsevier), Innovation Union Scoreboard 2010

Notes: Based on their average innovation performance across 24 indicators, Czech Republic, Greece, Hungary, Italy, Malta, Poland, Portugal, Slovakia and Spain show a performance below that of the EU-27. These countries are the Moderate innovators³.

Stock of researchers

The table below presents the stock of researchers by Head Count (HC) and Full Time Equivalent (FTE) and in relation to the active labour force.

Table 1: Human resources – Stock of researchers

Indicator	Czech Republic	EU Average
Head Count per 1 000 active labour force (2008)	8.45	9.45
Head Count (2008)	44 240	-
FTE per 1 000 active labour force (2009)	5.44	6.63
Full time equivalent (FTE) (2009)	28 759	-

Source: Deloitte

Data: Eurostat

2. National strategies

The Government of the Czech Republic has put in place a range of measures aimed at training enough researchers to meet its R&D targets and at promoting attractive employment conditions in public research institutions. The table below presents key programmes and initiatives intended to implement the strategic objectives to train enough researchers to reach Czech Republic's R&D targets, to promote attractive working conditions, and to address gender and dual career aspects.

Table 2: National strategies

Measure	Description
International Competitiveness Strategy for the Czech Republic (2012-2020)	The International Competitiveness Strategy is consistent with the European strategy Europe 2020, the National Reform Programme of the Czech Republic 2011 ⁴ , and other government policy documents. The Strategy defines eleven areas where strategic goals should be attained in order to secure competitiveness and the sustainable development of the Czech economy. The eleven strategic areas are: institutions, infrastructure, macroeconomic stability, healthcare, education, the labour market, financial markets, goods and services market efficiency and improving the characteristics of business, innovation, the basis for the pro-export strategy and cohesion policy. Within these areas more than forty key measures and hundreds of sub-measures are identified, leading to the creation of friendly conditions for creative business, innovation and growth. The 9 th strategic area 'Innovation' aims to "create financial, material, personnel and other conditions for the development of excellent research (...)".

³ European Commission (2011), "Innovation Union Scoreboard 2010".

⁴ The National Reform Programme contributes to the fulfillment of the "Europe 2020" strategy in the area of national economic policy coordination. The document is based on political priorities defined by the Government. At the same time, the document tries to reflect the diverse interests of Czech society.

Measure	Description
National Innovation Strategy (NIS) of the Czech Republic (2004-2010)	The aim of the National Innovation Strategy is to create conditions and lay the foundations for the formulation of the Czech Republic's innovation policy. The Innovation Strategy is in two parts: <ul style="list-style-type: none"> – PART I analyses the current situation in the Czech Republic related to innovation system, infrastructure, and entities (including research funding, development and innovation activities); – PART II refers to the establishment of smoothly functioning systems of education, research, development, and innovation, and their effective state management.
National Research, Development and Innovation Policy (NRDIP) of the Czech Republic (2009-2015)	The NRDIP consists of nine thematic objectives related to the development of the Czech Republic's economy and competitiveness, the quality of life and social development, and other areas such as public health, the environment and security.

Source: Deloitte

3. Women in the research profession

Measures supporting women researchers in top-level positions

In 2007, the percentage of women grade A academic staff was 12.7% in Czech Republic compared with 15.9% among the Innovation Union reference group and the EU average of 18.7%⁵.

Women's representation in science is low, especially in top-level positions. The percentage of women in researcher positions in the Czech Republic has not changed since 2001 when the Czech Statistical Office started publishing sex-disaggregated data on R&D.

In 2001, the Government of the Czech Republic established the Government Council for Equal Opportunities for Women and Men. Currently, the Council has four committees including the Reconciliation of Professional, Private and Family Life and the Institutional Safeguarding of Equal Opportunities for Women and Men.

The Czech Republic has in the last five years moved forward in promoting the principle of gender equality. The Ministry of Education, Youth and Sports continues to fulfill its annual plan of activities, including strengthening of equal opportunities of women and men, incorporating the gender equality dimension in curricula, textbooks and methodology materials for all grades of school. The Ministry of Education, Youth and Sports also intends to work towards reduction of gender segregation in the educational system and stereotypical choices of occupation and balancing the rate of highly qualified women taking science-pedagogical degrees⁶.

Significant improvements have been achieved in the anti-discrimination legislation and its enforcement. Simultaneously, the Ministry of Education, Youth and Sports has started the preparation of a programme on work/life balance and reintegration grants after maternity leave.

Quotas to ensure a representative gender balance

The Czech government has not implemented any quotas and/or national targets or other measures as to ensure a representative gender balance for researchers.

Maternity leave

In the Czech Republic, no legislation exists dealing exclusively with the possibility of interrupting and extending grants due to maternity leave. Public funders are autonomous providing they comply with the anti-discrimination act. PhD students, unless employed by a university or research institution, are regarded as students. Hence, female PhD students who become pregnant fall automatically into the 4 year parental leave category, and cannot choose between the 2, 3 or 4 year parental leave categories.

Public funding providers have not introduced any rules regulating the interruption and postponement of grant implementation in case of pregnancy. Recently, the Czech Science Foundation introduced the first transparent

⁵ See Figure 1 "Key indicators – Czech Republic".

⁶ Hana Tenglerová. 2009. 2010 Monitoring Report on the Position of Women in Czech Science, summarised in English in Natural Course of Action and Inactivity Do Not Lead to Improvement. Prague: Sociologický ústav AV ČR. <http://www.cec-wys.org/docs/nL%20AJ%202%20-%202010.pdf>. The report is at http://www.cec-wys.org/docs/Monitorovaci_zprava_2010.pdf.

rule for the interruption of its post-doctoral grants (can be interrupted for one year only, request must be submitted as of 1 January or 1 July of the current year).

4. Open, transparent and merit-based recruitment

Recruitment system

In the Czech Republic, each institution is an autonomous employer with its own personal and recruitment policies. There is no statutory instrument that would allow breaches of the autonomy of the institution.

There is no legislation dealing with the online publication of publicly-funded research jobs. EURAXESS CZ operates the Czech National EURAXESS Jobs portal that is linked to the international EURAXESS Jobs portal. The awareness of this instrument in the Czech Republic is still low and its potential is still underexploited.

Open recruitment in institutions

The table below presents information on open recruitment in higher education and public research institutions.

Table 3: Open recruitment in higher education and public research institutions

Do institutions in the country currently have policies to ...?	Yes/No	Description
– publish job vacancies on relevant national online platforms	No	
– publish job vacancies on relevant Europe-wide online platforms (e.g. EURAXESS)	Yes	The Ministry of Education, Youth and Sports has encouraged the institutions.
– publish job vacancies in English	No	
– systematically establish selection panels	No	
– establish clear rules for the composition of selection panels (e.g. number and role of members, inclusion of foreign experts, gender balance, etc.)	No	
– publish the composition of a selection panel (obliging the recruiting institution)	No	
– publish the selection criteria together with job advert	No	
– regulate a minimum time period between vacancy publication and the deadline for applying	No	
– place the burden of proof on the employer to prove that the recruitment procedure was open and transparent	No	
– offer applicants the right to receive adequate feedback	No	
– offer applicants the right to appeal	No	

Source: Deloitte

EURAXESS Services Network

In 2011, the number of researcher posts advertised through the EURAXESS Jobs portal per thousand researchers in the public sector was 11 in the Czech Republic compared with eight among the Innovation Union reference group and an EU average of 24⁷.

Information on entry conditions, transfer of social security and pension contributions, accommodation and administrative assistance is available at EURAXESS CZ.

Currently, there are two service centres in the EURAXESS Network (Prague and Brno) and eight local contact points. For the period 2012-2015, the Network is funded by the Ministry of Education, Youth and Sports of the Czech Republic under the EUPRO programme.

⁷ See Figure 1 “Key indicators – Czech Republic”.

The goal of the EURAXESS Network is to assist foreign and Czech incoming and outgoing researchers and host organisations to address specific situations related to their arrival or departure for various forms of practical information (i.e. Scientific Visa, health insurance, language courses etc.), fellowships and jobs. The EURAXESS Czech Network cooperates intensively with the Ministry of the Interior, the Ministry of Foreign Affairs and the Ministry of Social and Work. Representatives of EURAXESS CZ are fully involved in many strategic working groups and committees of the Ministry of Education, Youth and Sports dealing with relevant issues (human resources in R&D, mobility, visa conditions, health and social security etc.).

5. Education and training

Measures to attract and train people to become researchers

Attracting young talented students to become researchers has been embedded in the International Competitiveness Strategy, the National Innovation Strategy and the Human Resources Development in R&D documents developed by the government of the Czech Republic. All three documents suggest the development of tools and strategies to inspire young people to become researchers⁸.

The government of the Czech Republic has not put in place any measures to increase the number of students taking science to a doctoral level. In addition, there has been a marked decline (13.7%) in the number of women embarking on doctoral studies. Moreover, national statistical data and recent reports from the Institute for Information on Education (ÚIV) and the Research, Development and Innovations Council state that only one third of doctoral graduates in the Czech Republic make science and technology career.

The Czech Government, along with grammar schools, universities and research institutions, is working towards the creation or the support of (existing) tools to attract students to science, technology, engineering and mathematics (STEM) subjects. For instance, the Czech government is implementing a project on ‘Support for Technology and Science Fields’ (2009-12). This is one of several national individual projects of the Education for Competitiveness Operational Programme.

The project aims to facilitate systemic changes with a direct impact on the national education system in the sectors of tertiary education and R&D which are of key importance for the development of human resources. It is a broad-spectrum project responding to the lack of experts in technology and science disciplines. The key objective of the project is to implement a system of marketing support for S&T programmes at higher education institutions targeting higher education students. The project activities revolve around three pillars: motivation activities, communication of science and support for instruction.

Doctoral graduates by gender

The table below shows doctoral graduates in the Czech Republic by gender as a ratio of the total cohort population.

Table 4: Doctoral graduates by gender

Indicator	Czech Republic	EU average
New doctoral graduates (ISCED 6) per 1 000 population aged 25-34 (total) (2009)	1.4	1.5
Female Graduates (ISCED 6) per 1 000 of the female population aged 25-34 (2009)	1.1	1.4
Male Graduates (ISCED 6) per 1 000 of the male population aged 25-34 (2009)	1.7	1.6

Source: Deloitte

Data: Eurostat

Funding of doctoral candidates

The table below summarises different funding opportunities for doctoral candidates:

Table 5: Funding schemes available to PhD candidates

Funding scheme	Description
Stipend/Grant	The Czech Government, via Czech Universities, funds approximately 90% of doctoral students.

Source: Deloitte

⁸ For example “NÁVRAT” and “ERC_CZ”

Measures to increase the quality of doctoral training

The 'International Competitiveness Strategy' aims to increase the success rate of PhDs graduates (60% success rate) by improving the quality of doctoral training.

Skills agenda for researchers

The Government of the Czech Republic has not adopted a Skills Agenda and/or any other measure to improve researchers' employment skills and competencies.

The only exception is the Milada Paulová Award for Life-long Scientific Achievement by a Female Scientist. The Ministry of Education, Youth and Sports in collaboration with the National Contact Centre - Women in Science at the Institute of Sociology and the Czech Academy of Sciences organize the Milada Paulová Award, bearing the name of the first woman to win the right to lecture at a university (1925) and who also became the first female Professor (1939) in the Czech Republic, historian Milada Paulová.

The award:

- highlights the excellent scientific achievements of Czech women researchers;
- shows general support for women in science;
- inspires junior women researchers or students who are considering a career in science.

Each year the award is dedicated to a different field of science.

6. Working conditions

Via the Ministry of Education, Youth and Sports, the Ministry of Industry and Trade, the Czech Science Foundation, the Technology Agency and the Czech Academy of Sciences, the Czech Republic funds a number of national and international programmes and tools to promote attractive working conditions for researchers.

Remuneration

The National Innovation Strategy of the Czech Republic (2004) recommends that PhD stipends should increase to the level of average salaries⁹.

Researchers' Statute

The Czech government has already embedded the internationally acknowledged definition of the researcher as described in the Frascati manual¹⁰.

The individual stages of a researcher's career are not defined in Czech legislation. The only existing definition can be found in the 'Work catalogue', including a definition of the 'Academic worker'.

In accordance to the Act No. 111/1998 Coll. (amended and consolidated) on Higher Education Institutions and on amendments and supplements to some other acts (the Higher Education Act) and the Act No. 341/2005 on Public research institutions and on the changes and amendments of other related Acts, each university and public research institute has to develop internal remuneration rules where the specific stages of the research career and their definitions are included.

'European Charter for Researchers' & the 'Code of Conduct for the Recruitment of Researchers'

Up to now, the only research organisation that has adopted a position statement supporting the Council Recommendation 2005/251/EC (of 11 March 2005) on the 'European Charter for Researchers' and the 'Code of Conduct for the Recruitment of Researchers', is the Academy of Sciences of the Czech Republic (ASCR) in 2006.

In 2009, the ASCR declared its interest in a "Human Resources Strategy for Researchers incorporating the Charter and the Code", a newly launched supporting tool for the organisations to apply the 'Charter & Code' principles into their structures.

⁹ The average scholarship of postgraduate students is CZK 7 400 (some EUR 290).

¹⁰ OECD (2002), Frascati manual: Proposed Standard Practice for Surveys on Research and Experimental Development, 6th edition: "Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of the projects concerned."

The ASCR also joined together with Charles University the 'Charter & Code Promoter's Network' project (2010) that focuses on raising awareness of the 'Charter & Code' in the research community. By 2008, after an internal inquiry, an Action plan related to self-assessment and gap analysis, human resources strategy, lobbying, networking and internal communication of the 'Charter & Code' was prepared and sent to the European Commission. All objectives set out in the Action plan have now been achieved.

Autonomy of institutions

Act No. 111/1998 Coll., on Higher Education Institutions and Act No. 341/2005 on Public research institutions recognise all universities and public research institutes as autonomous employers with its own internal remuneration regulations.

Social security benefits (sickness, unemployment, and old-age)

In the Czech Republic, there is no legislation dealing exclusively with researchers' social security and supplementary old-age benefits.

The social security benefits researchers receive depend on the type of grant agreement. Generally speaking, if the contracts are defined as employment, social security and health insurance contributions are automatically taken off the wage, regardless of the nationality of the researcher.

7. Collaboration between academia and industry

The Czech Government (the Ministry of Education, Youth and Sports of the Czech Republic - MEYS) along with universities, research institutions and industrial partners are working towards the creation of or the support for existing tools to boost the collaboration between academia and industry.

For instance, the Czech government is currently implementing an 'Effective Knowledge Transfer' project. This is one of several national individual projects under the Education for Competitiveness Operational Programme. The project covers systems for intellectual property protection and commercial use, commercialisation of R&D results, and cooperation with industry. The project also involves the development of support methodologies for implementation, the creation of networks for effective knowledge transfer and the training of the target group of users in the methodological materials.

8. Mobility and international attractiveness

In 2007, the percentage of doctoral candidates (ISCED 6) with citizenship of another EU-27 Member State was 5.8% in the Czech Republic compared with 2.8% among the Innovation Union reference group and an EU average of 7.3%¹¹. In the same year, the percentage of non-EU doctoral candidates as a percentage of all doctoral candidates was 3.1% in the Czech Republic compared with 5.1% among the Innovation Union reference group and an EU average of 19.4%¹².

Measures aimed at attracting and retaining 'leading' national, EU and third country researchers

The Návrat' (Return) programme - funded by the Ministry of Education, Youth and Sports - aims at researchers' reintegration. It creates conditions for faster and more successful reintegration of professionals with significant experience in research organisations within the Czech Republic.

In the Czech Republic, the level of awareness of the scientific visa for scientists/researchers from third countries remains low. Researchers are not well informed about the possibility of applying for the scientific visa and in many cases still apply for a work visa.

The Ministry of Education, Youth and Sports of the Czech Republic, in cooperation with various stakeholders, established the Working Group 'LIDÉ' dealing with human resources in R&D, including mobility and gender equality issues.

The table below summarises key measures in support of researchers' inward mobility.

¹¹ See Figure 1 "Key indicators – Czech Republic".

¹² Ibid.

Table 6: Measures supporting researchers' inward mobility

Measure	Description
ERC.CZ programme funded by the Ministry of Education, Youth and Sports (2010-2019)	The ERC.CZ funding programme supports the integration of researchers into Czech research organisations by providing them with satisfactory conditions for the realisation of projects which have been positively evaluated within ERC calls, but for which the ERC did not have enough funds.
'Installation grants within EMBC' (European Molecular Biology Conference) via the Ministry of Education, Youth and Sports	The grant allows researchers staying abroad for a long time or who have recently returned to the Czech Republic to obtain an installation grant for a period of 3 to 5 years. In 2011, the MEYS supported 6 projects.
'Mobility Support' Activity funded by the Ministry of Education, Youth and Sports	Mobility Support is a funding activity for incoming and outgoing researchers' mobility. It supports short-term bilateral mobility while the researcher remains employed at their home/sending organization. The time period for resolving projects is two years.
'SoMoPro' programme by South Moravian region, COFUND (7FP) (2009-2013)	The aim of SoMoPro is to attract distinguished foreign researchers and reintegrate Czech scientists into the South Moravian region.

Source: Deloitte

Outbound mobility

The table below summarises key measures encouraging researchers to spend some time in another country.

Table 7: Measures supporting researchers' outbound mobility

Measure	Description
KONTAKT Programme of the Ministry of Education, Youth and Sports (ongoing)	The programme focuses on support for the participation of Czech research and development specialists in bilateral activities (based on governmental agreements on collaboration in science and technology) and in multilateral activities in research, including ERA-NET projects. To be selected, projects must have passed the evaluation process of relevant ERA-NET projects and been recommended for support. The programme supports researchers' mobility and supports cooperation with third countries. The time limit for resolving projects is four years.
'Mobility Support' programme funded by the Ministry of Education, Youth and Sports	See chapter 8 "Mobility and international attractiveness". The time period for resolving projects is two years.
Participation of the Czech Republic in EMBC (European Molecular Biology Conference) by the Ministry of Education, Youth and Sports	In the framework of the this funding programme, young PhD researchers can apply for long- and short-term scholarships (up to three years and up to six months) in any other EMBC member country.
SCIEX-NMSch – Scientific Exchange Programme between the New Member States of the EU and Switzerland via DZS/NAEP - a contributory organisation directly run by the MEYS COFUND (2009-2016)	<p>A Sciex Fellowship consists of the costs for research training placements of Sciex Fellows (employer's salary costs, travel) and the costs for knowledge exchange of the Sciex Mentors (three reciprocal visits). All Sciex payments are issued to the Swiss Host Institution. The Swiss Host Institution administers the Fellowship.</p> <p>Research training placements for Sciex Fellows are reserved for promising doctoral candidates and post-doctoral researchers from the new member states (no age restriction). The conditions are:</p> <ul style="list-style-type: none"> – The fellows must be in doctoral education or conducting post-doctoral research; – Placements last between a minimum of six months and a maximum of 18 (for PostDocs) and 24 (for Doctoral Candidates); – Swiss Host Institutions finance all costs related to the work of the Fellow, which are not covered by the Sciex Fellowship. <p>There is no possibility of applying for an extension. However, projects can apply with a follow-up project. This is evaluated using the same evaluation procedure as new projects and the funding is allocated on a competitive basis. The follow-up project should bring clear added-value to the former project.</p> <p>Short-term Visits:</p> <p>Three short-term visits are provided for both mentors from the New Member States and from Switzerland of an approved Sciex project. The aims are:</p> <ul style="list-style-type: none"> – Mentoring visits to support the Fellow; – Networking of the Mentors (intensify their cooperation and discuss joint

Measure	Description
	research projects).

Source: Deloitte

Promotion of 'dual careers'

The Government of the Czech Republic does not actively promote measures supporting researchers' dual-careers.

Portability of national grants

In the Czech Republic, publicly funded grants or fellowships are not portable to other EU countries.

Access to cross-border grants

The majority of the grants are open to Czech and foreign candidates regardless of their nationality. By law, the recipient of the financial support is always a research institution with its headquarters in the Czech Republic.

Measures encouraging inter-sectoral mobility

The issue of encouraging researchers to move from the public to the business sector and vice-versa has been embedded in the National Innovation Strategy of the Czech Republic and is being implemented by the Ministry of Education, Youth and Sports of the Czech Republic in collaboration with various stakeholders.